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CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

CD

COUNTRY East Germany

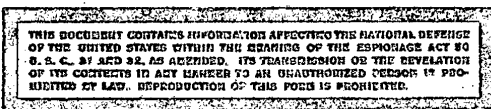
DATE DISTR. 23 November 1953

SUBJECT Werk fuer Fernmeldewesen HF (OSW) Production
of Transmitter Triode TS 41

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DATE OF
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1. The transmitter triode TS 41, now in production at the Werk fuer Fernmeldewesen HF (formerly OSW), has a maximal capacity of 750 watts and is suitable for a wave length of up to two meters. It is equipped with anodes made of molybdenum, zirconium, or graphite. The graphite anodes are produced by Siemens-Planitz, Berlin-Lichtenberg.
2. The TS 41 can be used in television and very high frequency transmitters. The first trials of its use in these devices are now being run. At present, TS 41 triodes are used mainly in a therapy device which operates on a wave length of 27 meters. The therapy devices are produced by Roentgenwerk Dresden, ¹ELMED in Hohenneuendorf, ²and the Schwarz firm in Magdeburg. All three firms are working chiefly on Russian orders.
3. The delivery quota for TS 41 triodes amounted to 300 in 1949, 500 in 1950, and 2,000 in 1951. These delivery quotas were not filled, however, chiefly because of difficulties incurred in procuring tungsten.
4. The TS 41 triode is subjected to a static test in which heating current, anode current, grid current, and grid-plate transconductance are tested. In the dynamic test, the achieved capacity of the triodes is measured in a push-pull oscillation chamber (Gegentaktschwingbetrieb) by means of incandescent lamps which operate with calibrated photo-cells.
5. Zirconium is used at the HF plant and in other factories as a substance producing a Getter effect because it has the property of absorbing gases. Zirconium is sprayed on the anodes because, through its steel grey color, it has the property of absorbing heat well and thus increasing the capacity of the anode. Zirconium is used for the grid because here too it acts as a good conductor (Abstrahler) of heat, has a Getter effect, and prevents thermal grid emission. It is used, however, only for grids in transmitter tubes. The HF plant has incurred great difficulties with zirconium, because the type produced is not chemically pure enough and, therefore, makes tubes unusable.

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6. The HF plant uses graphite anodes for transmitter tubes which are to carry very high loads. Because of its dark color, graphite is an even better conductor (Abstrahler) of heat than zirconium.
7. Wire-drawing is once again being done at the HF plant. Wires drawn by the Berliner Gluehlampenwerk (BGW) were consistently of such poor quality as to be unusable. The director of BGW, Berg (fnu), was arrested on suspicion of sabotage. At the HF plant, new type experiments in wire-drawing were made, but the wire drawn had blisters and was therefore unsuitable for use in tubes.
8. A new very high frequency transmitter final stage (Endstufe) for 87.5 to 100 mcs was structurally completed on 10 September 1953. The end stage has, among other things, a Lecher system and a tank circuit (Topfleitung). The instrument has already been tested in the laboratory, and the tubes were found to be defective. Great difficulties have arisen in procuring new tubes, and as a result experiments have been temporarily cancelled.

Comments.

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1. VEB Transformatoren- und Roentgenwerk (TRARO), Dresden N 30, Saxony, Overbeckstrasse 48.
2. Hohenneuendorf VEB, Hohenneuendorf near Berlin, Berlinerstrasse 79.
3. Possibly identical with Schwarz & Helbig, Olvenstedter Strasse 44, Magdeburg, listed under "Elektrotechnische Bedarfsartikelfabriken" in the 1948 Saxony-Anhalt directory.

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